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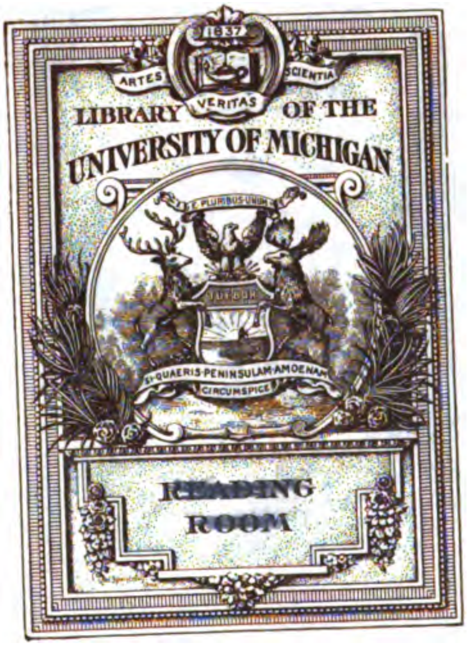

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BIBLIOGRAPHY

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INDUSTRIAL EFFICIENCY

AND

FACTORY MANAGEMENT

(BOOKS, MAGAZINE ARTICLES, Etc.)

WITH MANY ANNOTATIONS AND
INDEXES OF AUTHORS
AND OF SUBJECTS

BY

arry eorge urner
H. G. T. CANNONS

Borough Librarian, Finsbury, London

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1920

Dedicated to my Brother,

CAPTAIN E. G. CANNONS, O.B.E.

Transferred to
Stacks
12-26-46

6-22-54

INTRODUCTORY NOTE

THIS handbook is divided into two Parts, the first forms a classified and annotated guide to the literature published in book form, with analytical references from the contents of such works relating to the science of industrial management, and also indexes the important articles published in the Transactions of various Societies and technical journals.

The work contains approximately 3,500 references to the various sources of industrial efficiency, classified under sixty-three subject headings arranged in logical sequence, and shows at a glance the available literature on every phase of the subject. The second part is an alphabetical author index.

An alphabetical subject index, which should be freely consulted, has been provided to show the exact position of entries dealing with the references on any particular topic treated therein, whilst the Table of contents gives an outline of the subjects on which the first portion is planned.

Names of Publishers, and prices at which the works were published have been added where possible, but it should be noted, however, that the prices have recently been advanced by Publishers—such advances varying from 25 per cent. to 75 per cent. on the original published price.

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IV.—LAUNCHING OF INDUSTRIAL ENTERPRISES.

Seabrook, E. L. How to Make the Business Pay. *New York*, 1916. Metal Publication Co.

A practical treatise on business management for contractors in sheet metal work, plumbing, heating, electrical work, and building construction; with methods for ascertaining the cost of conducting business; estimates on contracts; book-keeping; conducting collections and credits; publicity and business correspondence; securing and retaining custom.

Shepard, G. H. The Application of Efficiency Principles. *Industrial Management Library*. *New York*, 1917. Engineering Magazine Co. ($3·00).

Contents: The principles; preliminaries; troubles; higher common sense; ideals; personnel; organization; records, planning and dispatching; adaptation of conditions and work to each other; standards; correct methods—instruction, the fair deal; discipline; efficiency reward; determination of efficiencies; cost finding; estimating financial results; selection of the point of attack.

System Co. Labor: Building up a Factory Force; Industrial Policies; Handling and Training Men; Scientific Management; Wage Payment; Co-operation: Safety and Service Work. *Works Management Series*. *Chicago*, 1915. A. W. Shaw Co. ($3·00).

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Its painstaking examination of the promotion and reorganization of typical consolidations, its scholarly balancing of motives and results, its penetrating analysis of the financial and industrial administration of the individual businesses, and its revelation of the actual causes of failure in each instance, are an invaluable foundation for the construction of a programme of reform.

Fiske, A. K. Honest Business: Right Conduct for Organizations of Capital and Labour. *New York*, 1914. Putnam ($1·00).

An exposition of the nature of business, the use of money and credit, the meaning of wages, profits, prices, and the proper division of the fruits of labour.

Gantt, H. L. Industrial Leadership. *New Haven*, 1916. Yale Univ. Press ($1). *London*. Milford (4/6 net).

Addresses delivered in the Page Lecture Series, 1915, before the Senior Class of the Sheffield Scientific School, Yale University. They set forth principles for organising an industrial democracy which shall be as effective as the autocratic industrialism revealed by Germany in the present war.

Gerstenberg, C. W. Materials of Corporation Finance. 1915.

A source-book compiled to facilitate the study of corporation finance in classes where the use of the original documents is impracticable.

V.—LOCATION OF INDUSTRIAL PLANTS.

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The usefulness of this book as a text in courses on business organization, corporation finance or trusts, has been increased by the addition of a chapter tracing the development and organization of a large corporation (The International Harvester Company), and by a chapter on the Sherman Act and its interpretation.

Hurley, E. N. Awakening of Business. *New York*, 1916. Doubleday Page & Co. ($2·00).

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Jones, E. D. Launching an Industrial Enterprise. *In his* "Administration of Industrial Enterprises." *New York*, 1917. Longmans ($2·00).

Kimball, D. S. Principles of Industrial Organization. *New York*, 1913. McGraw-Hill ($2·50).

Sets forth the salient facts regarding the most important modern improvements in the industrial field and explains the origin and growth of the importat featurens of industrial organization. Bibliographies.

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Bunnell, S. H. Cost-keeping for Manufacturing Plants. *New York*, 1911. pp. 232. Appleton ($3·00).

All the essential features of cost accounting are fully and satisfactorily explained. In his long experience as Works Manager for several large plants, the author has installed cost-keeping systems which have proved of high value. His descriptions and illustrations are quite sufficient to enable the reader to understand the subject thoroughly. The book includes chapters on Introductory or cost systems; the factory order; the cost of material; the cost of labour; accurate method of taking inventory; shipping, summarizing, invoicing, periodic reports.

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Higher Accountancy: Principles and Practice. *Chicago*, 2 V. 1911. La Salle Extension University.

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Manufacturing Costs and Accounts. *New York*, 1917. McGraw-Hill ($5·00).

The object is to present to the student of cost accounting a simple view of the general structure of cost accounts, the why and wherefore, rather than detailed description of a specific system.

Production Factors in Cost Accounting and Works Management. *Industrial Management Library. New York*, 1916. Engineering Magazine Co. ($2·00).

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Cole, W. M. Cost Accounting. *In his* " Accounts, their Construction and Interpretation." *Boston*, 1915.

Cost Accounting for Institutions. *New York*, 1913. Ronald Press ($3·50).

Presents a comprehensive system of cost accounting for public or private institutions, such as hospitals, hotels, schools, municipal institutions, etc. The accounts of a hospital are taken as a concrete basis for working out complete illustrative details of recording and analysis of costs of food, service, laundry, nursing, medical attention and the scores of other expenses of an institution. The use of numbers and symbols for accounts is explained, giving a list of appropriate symbols for institutional work. All important forms are presented.

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A book written for the man who wants to know more about cost and profit and the items that properly constitute each of these fundamentals of business. It will clear up for many a reader the hazy ideas that many confessedly possess. One of the best features of the book is the chapter devoted to the terminology of cost engineering.

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Purpose of a Cost System. *New York*, 1910. American Machinist, Vol. 33, pp. 955-957.

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Process Cost Accounts. *The Accountants' Library, Vol. xlix. London*, 1908. pp. 152. Gee (5/–).

The system of costing described is applicable to chemical industries, food products, etc., in which conversion of material takes place, and there are principal and by-products, such as Farmers, Fellmongers, etc., and embodies an explanation and résumé of technical data which cannot fail to be invaluable to the student of process accounting.

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Contents; The ten laws of management: rules for securing minimum cost; piece rate; bonus and other systems of payment; measuring the output of workmen; cost-keeping; office appliances and methods; book-keeping for small contractors; miscellaneous cost report blanks and systems of cost-keeping.

Handbook of Cost Data. *2nd Ed. New York*, 1910. pp. 1854. M. C. Clark Co. ($5·00). *London;* Spon (21/–).

An exceedingly valuable amount of engineering experiences, indexed so that any kind of information as to cost of almost any kind of construction can be determined. Earth and rock excavation, quarrying and crushing, roads and pavements plain and reinforced concrete, water works, sewers, timber work, buildings, railways, bridges and culverts, steel construction, engineering and surveys, miscellaneous cost data and the principles of engineering economics.

Handbook of Mechanical and Electrical Cost Data, giving Shipping, Weights, Capacities, Outputs, and Net Prices of Machines and Apparatus, and Detailed Costs of Installation, Maintenance, Depreciation, and Operation, together with many Principles and Data relating to Engineering Economics. *New York*, 1918. McGraw-Hill ($6·00).

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Kent, William. Book-keeping and Cost Accounting for Factories. *New York*, 1918. pp. 261. Wiley. *London*, Chapman & Hall.

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The book begins with general principles of double entry book-keeping and proceeds to the consideration of factory accounts with special chapters on cost accounting for iron and steel works, foundries, hardwood factories, machine shops, woodworking shops, textile mills, printing shops, etc. Bibliography, pp. 251-252.

Making the Cost Department worth while. *New York*, 1914. Industrial Engineering and Engineering Digest, Vol. 14, pp. 393-394.

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Kimball, D. S. Cost Finding. *Modern Business, Vol.* 10. *New York*, 1917. pp. 338. Alexander Hamilton Institute.

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McKillop, M. *and* A. D. The Costing Department. *In their* "Efficiency Methods." *London*, 1917. Routledge (4/6 net).

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Nicholson, J. L. Cost Accounting: Theory and Practice. *5th Ed.* *New York*, 1917. Ronald Press ($4·00).

Specially designed to give in the most direct and concise manner a thorough grasp of basic principles and their application. Costs are resolved into their fundamental elements, and from these are developed the four typical systems which are the bases of all cost systems, simple or complex. Fully covers all features such as determining indirect expenses, wage systems, recording of material and labour charges, compiling cost data, control by financial records, examining plants and devising cost systems. Intended for use in practical cost work by those who already understand the elements of the subject.

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Webner, F. E. Factory Costs for Cost Accountants and Factory Managers. *New York*, 1911. pp. 611. Ronald Press ($6·00).

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Davenport, H. J. Different Basis of Cost and Distributive Shares. *In his* " Economics of Enterprise." *New York*, 1916. Macmillian ($2·25).

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XXXVIII.—EXPENSE BURDEN.

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Metcalfe, Henry. Cost of Manufactures and the Administration of Workshops, Public and Private. *3rd Ed. New York*, 1894. J. Wiley & Sons. *London*, Chapman & Hall.

Miller, W. M. S. Errors and Difficulties in Manufacturing Costs. *New York*, 1909. Engineering Magazine, pp. 825-832.

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The author gives the conclusions he has reached after some years' trial of his methods of scientific management under many varying conditions. Machine-shop and foundry products being utilised as examples.

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Sammons, Wheeler. Keeping up with Rising Costs. *Chicago*, 1915. A. W. Shaw Co. ($2·00).

Analyses the retailer's cost of doing business, and tells him just what percentage should be sufficient to cover rent, heat, light, salaries, advertising, bad debts, etc., based on actual figures supplied by 1,500 business concerns.

Scientific Management : the Law of Unit Cost Reports. *Chicago*, 1912. Engineering and Contracting, Vol. 37, pp. 428-429.

Smith, G. Distribution of Indirect Costs by the Machine-hour Method. *New York*, 1909. Engineering Magazine, Vol. 37, pp. 384-394.

Stephenson, J. Working Expenses. *In his* "Principles of Business," Part I. *London*, 1916. Pitmans.

Stratton, C. E. Labor-cost Distribution at Lynn. *New York*, 1908. Engineering Magazine, Vol. 34, pp. 956-964.

Thompson, C. B. Taking Factory Costs Apart. *Chicago*, 1914. System, Vol. 23, p. 131.

Waterbury, W. A. Points to Watch in the Expense Account. *In* "Library of Business Practice," Vol. 4. *Chicago*, 1914. A. W. Shaw Co.

Webner, F. E. Obtaining Actual Knowledge of the Cost of Production. *New York*, 1908. Engineering Magazine, Vol. 35, pp. 251-256, 345-348, 591-594, 837-842 ; Vol. 36, pp. 76-80.

Treats of when a close knowledge of costs is needed, comparison of costs and the profitable use thereof, the use and abuse of mechanical aids, cost records, etc.

Wildman, J. R. Distributable Overhead and Bases of Distribution. *In his* "Principles of Cost Accounting." *New York*, 1916. New York University Press ($2·00).

Woods, C. E. The Distribution of Expense. *In his* "Organizing a Factory." *Chicago*, 1913. A. W. Shaw Co.

XXXIX.—VOCATIONAL GUIDANCE.

Barrett, C. R. Getting a Good Job. *Chicago*, 1917. American Technical Society.

A practical solution of the problem of fitting the right man to the right place.

Cope, E. A. Clerks : Their Rights and Obligations. *London*, 1910. Pitman (1/6 net).

Deals with such matters as termination of engagements, summary dismissal, bankruptcy, secret commissions, compensation, etc. A complete guide for the clerical worker written in a plain and sensible manner.

Davies, Emil. How to Get a Situation Abroad. *London*, Pitman (1/6 net).

On obtaining an appointment in a foreign country ; prospects of advancement ; varying conditions of life in different countries ; cost of living ; and opportunities of perfecting one's knowledge of the foreign language, etc.

Fleming, A. P. M. *and* **Pearce, J. G.** Principles of Apprentice Training ; with special reference to the Engineering Industry. *London*, 1916. Longmans (3/6 net).

The authors survey the general conditions of the employment of highly skilled labour, and show how the wasteful methods of to-day should be superseded by the readjustment of primary education, by vocational training, and by more intelligence and sympathy on the part of employers and trade unions. Bibliography.

Giles, F. M. *and* **I. K.** Vocational Civics : a Study of Occupations as a background for the consideration of a Life-career. *New York*, 1919. Macmillan.

Gillette, J. M. Vocational Education. *New York*, 1910. American Book Co. ($1·00).

Hollingworth, H. L. Specialized Vocational Tests and Methods. School and Society, 1915. Vol. 1, pp. 918-922.

An examination of the trials, so far, to find adequate pyschological and other tests. Little of value has been accomplished.

Kelly, Florence. Modern Industry and Education. *In her* "Modern Industry in Relation to the Family Health, Education, etc." *London*, 1914. Longmans (3/6).

Kitson, H. D. Suggestions towards a Tenable Theory of Vocational Guidance. Manual Training and Vocational Education, Vol. 15, No. 5, Jan., 1915, pp. 265-271.

Objects to the current conception about the utility of psychological tests, claims that interest is not a reliable guide, and advocates guidance based on facts and monitory in its nature.

Psychological Tests and Vocational Guidance. *Chicago*, 1916. School Review, Vol. 24, No. 3, pp. 207-214.

There are several references to the works of Mrs. Woolley in Cincinnati and to the activities of the University of Chicago.

Koester, Frank. Educational Systems. *In his* "Price of Inefficiency." *New York*, 1913. Sturgis & Walton Co. ($1·50).

Marot, Helen. Creative Impulse in Industry : a Proposition for Educators. *New York*, 1918. Dutton. ($1·50 net).

Contents : Production and creative effort ; adapting people to industry ; the American way ; the German way ; educational industry and associated enterprise.

Munsterberg, Hugo. Scientific Vocational Guidance. *In his* "Psychology and Industrial Efficiency." *Boston*, 1913. Houghton, Mifflin ($1·50).

National Association of Corporation Schools. Third Annual Convention, 1915. Papers and Reports.

Pages 329-478 deal with the report of the Committee on vocational guidance and with the discussion on that topic. Reference is to the employment rather than explicity to the school, and an argument for versatility in the occupation is given. "Versatility of employment is the sieve for catching and testing varied abilities" (p. 32). The volume contains other material of use to the counsellor, particularly that in regard to the work of employment managers. See Reilly's discussion, pp. 778-781.

National Association of Manufacturers. Industrial Education. Report of a Committee, H. A. Miles, Chairman, 1915. Reprinted by the Bureau of Education. *Washington*, 1915. Government Printing Office.

Discusses the continuation and part-time plan, and argues for dual control. Legislation in Wisconsin and Pennsylvania is discussed, together with suggested adjustments necessary to be made in factory management. The report presents the point of view of employers willing to foster the education of workers. The Association has issued several other bulletins.

XL.—ACADEMIC STUDY AND TEACHING.

National Society for the Promotion of Industrial Education. Report of the Minneapolis Survey for Vocational Education. Published by the Society. Bulletin No. 21, 1916. Reprinted by the U.S. Bureau of Labor Statistics.

This report is a mine of interesting information for the employment manager or the student of vocational guidance. Nearly a score of large industries were surveyed, including some for women. Trade agreements were worked out, vocational guidance planned, and prevocational studies suggested. The size and character of the book make it unlikely that it will be widely read. Booklets based upon its findings should be prepared for the use of parents and pupils.

This society publishes annual reports, bulletins and other documents valuable to vocational counsellors or to employment managers.

What is the Smith-Hughes Bill providing Federal Grants to Vocational Education ? And what must a State do to take advantage of the Federal Vocational Education Law ? New York, March, 1917. 48 pp.

The first part of the bulletin contains a series of questions and answers intended to bring out the more important provisions of the Bill. A complete draft of the vocational education act follows ; tables show the funds available for each State. There are suggestive chapters dealing with the principles and policies of vocational education and a model bill for enactment by States desiring to avail themselves of the offer of Federal aid.

Schneider, H. Education for Industrial Workers. *School Efficiency Series.* 1915. World Book Co.

This is a constructive study applied to New York City, but lays down principles which apply to all American Schools. Particularly interesting are his classification of work as " energizing " or " enervating," his knowledge of psychological conditions of labour (pp. 14-15), his description of a factory town (pp. 10-11), his understanding of methods of instituting co-operative work, and his appreciation, on almost every page, of the social questions involved in conditions of labour.

Terman, L. M. The Standard Revision and Extension of the Binet-Simon Scale for Measuring Intelligence. 1917.

U.S. Bureau of Labor Statistics. Short Unit Courses for Wage Earners, and a Factory School Experiment. Bulletin Whole No. 159. Misc. Series No. 6, 1915 ; by W. A. O'Leary, C. A. Prosser, and C. H. Winslow.

The first study, by the first two authors named, gives a general and detailed view of what is being accomplished in part-time and short-course work. The second describes the gain to workers and employers in an actual experiment.

XL.—ACADEMIC STUDY AND TEACHING.

Allen, Leicester. A Project for a Bureau of Engineering Data. *New York, 1901.* Engineering Magazine, Vol. 22, pp. 408-413.

Pleads for the extension of bureaus of engineering, particularly in the field of dynamic engineering.

Armer, J. C. Saving Waste in Manufacture. *Toronto,* 1910. Applied Science, Vol. 22, pp. 226-230.

Field of work in which the technical graduate might well look for a future.

Bogart, E. L. Industrial Education. *In his* " Business Economics," Chapter xi. *Chicago,* 1917. La Salle Extension University.

Bradley, L. C. Training Men for Supervision and Executive Positions. *Boston,* 1916. Stone and Webster's Journal, Vol. 19, pp. 290-301.

Browne, F. K. The Efficiency Idea in College Training. *New York,* 1912. Efficiency Society. Transactions, Vol. 4, pp. 419-420.

Cooke, L. M. Academic and Industrial Efficiency. *New York,* 1910. pp. 134. Carnegie Foundation for the Advancement of Teaching Bulletin, No. 5.

A highly interesting study of the efficiency of management of a number of well-known universities and colleges, as judged from the point of view of an industrial engineer.

Diemer, Hugo. Education in Scientific Management. *New York,* 1915. Efficiency Society Journal, Vol. 4, pp. 7-10.

Factory Organization in Relation to Industrial Education. *Philadelphia,* 1912. American Academy of Political and Social Science Annals, Vol. 44, pp. 130-140.

Durell, Fletcher. Recent Progress in Efficiency Education. *New York,* 1916. Efficiency Society Journal, Vol. 5, pp. 249-254.

Educational or Administrative Efficiency? An editorial comment. *New York,* 1911. Engineering Magazine, Vol. 40, p. 606.

Gantt, H. L. Engineering Schools and Industrial Methods. *New York,* 1916. Engineering Magazine, Vol. 51, pp. 161-166.

Colleges must unite in directed effort to educate and train men for responsible positions.

Garnett, William. Industry, Education and Research. With discussion. *Manchester,* 1916. Textile Institute Journal, May, 1916, pp. 74-91.

Godfrey, Hollis. The Teaching of Scientific Management in Engineering Schools. *Ithaca, New York,* 1913. Society for the Promotion of Engineering Education, Vol. 20, pp. 69-81.

Gray, H. B. Education and Industry. *In his* " America at School and at Work." *London,* 1918. Nisbet.

Haney, J. P. Vocational Training and Trade Teaching in the Public Schools. *Philadelphia,* 1909. American Academy of Political and Social Science ($0·15).

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Hanus, P. H. Beginnings of Industrial Education and other Educational Discussions. *Boston*, 1908. Houghton Mifflin.

A discussion of the aims, methods, and value of vocational education, with plans used in Germany, and a statement of the needs in Massachusetts and the plans for supplying those needs. The proposals of this book are now being widely adopted.

Improving Schools Systems by Scientific Management: underlying principles. *Ann Arbor, Mich.*, 1913. National Education Association. Journal of Proceedings and Addresses, 1913. pp. 247-259.

Harrington, J. L. Necessity for Individual Engineering Libraries and for Continuing Study after Graduation. *Kansas City, Mo.*, 1909. J. L. Harrington ($0·10).

Hibbard, E. *and* Philbrick, E. S. Teaching of Scientific Shop Management with use of Engineering School as the Laboratory. *Ithaca, New York*, 1912. Society for the Promotion of Engineering Education. Proceedings, Vol. 19, pp. 91-145.

Himes, A. J. Industrial Need of Technically Trained Men. *New York*, 1913. Scientific American, Vol. 108, pp. 438-440.

Opportunities that await the trained engineer.

Ioteyko, Josefa. Belgian Methods of Technical Education. *In her* "Science of Labour and Organization." *London*, 1919. Routledge (3/6 net). *New York*, Dutton.

Jackson, D. C. Criticism of the Engineering Schools. *Hoboken, New Jersey*, 1910. Stevens Indicator, Vol. 27, pp. 25-36.

Johnston, A. W. The Industrial Need of Technically Trained Men. *New York*, 1913. Scientific American, Vol. 109, p. 292.

Jones, E. D. The Relation of Education to Industrial Efficiency: the Study of General Principles of Administration. American Economic Association. Papers and Proceedings of the 26th Annual Meeting, 1914, pp. 209-233.

Issued as a supplement to Vol. 5, No. 1, March, 1915, of the American Economic Review.

Kaempffert, Waldemar. Industrial Need of Technically Trained Men. *New York*, 1913. Scientific American, Vol. 108, pp. 252-254.

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Kent, R. T. An Auxiliary to the Colleges in Training Scientific Managers. *New York*, 1912. Industrial Engineering and Engineering Digest, Vol. 12, p. 206.

Kent, William. A Summer Course in Scientific Management: two weeks' experience strengthens a belief in teachableness of subject; Industrial Engineering as a profession promises many opportunities. *New York*, 1915. Iron Age, Vol. 96, pp. 1306-1307.

Kimball, D. S. Industrial Organization and the Technical Schools. *New York*, 1916. Engineering Magazine, Vol. 52, pp. 104-108.

Larner, C. W. The Industrial Need of Technically Trained Men. *New York*, 1913. Scientific American, Vol. 109, pp. 218.

The possibilities that await the hydraulic engineer.

Leverhulme, W. H. Lever, *1st Baron*. Education and Business. *In his* "Six-hour Day and other Industrial Problems." pp. 199-243. *London*, 1918. Allen & Unwin (12/6 net).

Lewis, M. C. *and* Kempner, M. Manual of Examinations for Engineering Positions in the City of New York. *New York*, 1907. Engineering News Co. ($5·00).

Appendix on Civil Engineers' examinations in the service of the U. S. Navy, Panama Canal and other Federal departments.

Lewis, Wilfrid. Conserving the Data of Scientific Management. *New York*, 1912. Iron Age, Vol. 90, pp. 1324-1325.

The place of the college in gathering this material and making it available for all industries.

McCormick, S. B. Efficiency in College Administration. *Pittsburgh*, 1915. Society for the Promotion of Engineering Education. Proceedings, Vol. 23, pp. 193-203.

Maclaurin, R. C. Educational and Industrial Efficiency. *New York*, 1911. Science, *new series*, Vol. 33, pp. 101-103.

A Review of the Carnegie Foundation. Bulletin, No. 5, 1910.

An editorial on this article will be found in Industrial Engineering and Engineering-Digest, Vol. 9, p. 216.

Mahin, J. L. Industrial Militarism: Government Training to develop the Individual. *New York*, 1916. Scientific American Supplement, 4 March, 1916, pp. 150-151.

Marot, Helen. Educational Industry and Associated Enterprise. *In her* "Creative Impulse in Industry." *New York*, 1918. Dutton ($1·50 net).

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Quincey, A. B. The Industrial Need of Technically Trained Men. *New York*, 1913. Scientific American, Vol. 109, p. 42.

Reese, Chester. Training Men as an Army develops Soldiers. *Mishawaka, Ind.*, 1916. The Dodge Idea, Vol. 32, pp. 624-625.

XLI.—BUSINESS PSYCHOLOGY.

Rice, D. E. The Industrial Need of Technically Trained Men. *New York*, 1913. Scientific American, Vol. 109, pp. 116-117.

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Rice, J. M. Scientific Management in Education. *London*, 1915. pp. 282. G. G. Harrap & Co.

Ritchie, **John**, *jun*. Industrial Need of Technically Trained men. *New York*, 1918. Scientific American, Vol. 108, p. 548.

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Roe, J. W. How the College can Train Managers. *New York*, 1916. Engineering Magazine, Vol. 51, pp. 537-542.

Rowell, H. B. Industrial Situation at the end of the War: Need for Training in economy of Production and Scientific Management. Presidential Address, North East Coast Inst. of Engineers and Shipbuilders. *London*, 1915. English Mechanic, Nov, 12, pp. 342-343.

Smallwood, J. C. Efficiency Principles of Technical Education. *New York*, 1912. Engineering Magazine, Vol. 42, pp. 915-920.

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Tabor, W. H. Teaching Scientific Management in the College. *New York*, 1914. Industrial Engineering and Engineering Digest, Vol. 14, pp. 287-288.

A description of how the engineering students at Pennsylvania State College are instructed in time study, routing and planning.

Taylor, F. W. Comparison of University and Industrial Methods. *Hoboken, N.J.*, 1907. Stevens Indicator, Vol. 24, pp. 37-46.

Why Manufacturers dislike College Graduates. *Ithaca, New York*, 1910. Sibley Journal of Engineering, Vol. 24, pp. 196-204.

Taylor, H. G. The Education of Engineers. *London*, 1917. Bell (2/-).

Seeks to show that engineers are not educated to that higher perception which enables a man to gauge his own power and constrains him to direct that power to the ultimate benefit of his fellows.

Technological Education in its Relation to Industrial Development. *In* "Technology and Industrial Efficiency." *New York*, 1911. McGraw-Hill ($3·00).

Thompson, F. B. Training for Business Efficiency. *New York*, 1912. Efficiency Society. Transactions, Vol. 1, pp. 413-418.

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Walker, P. F. Methods of Teaching Industrial Management at the University of Kansas. *Pittsburgh*, 1915. Society for the Promotion of Engineering Education. Proceedings, Vol. 23, pp. 137-149.

Warriner, E. C. Industrial and Vocational Training in the Public Schools: prepared by Supt. E. C. Warriner, of Saginaw, and published by the State Superintendent of Public Instruction. Michigan Dept. of Public Instruction.

Webster, A. G. Business Men and Scholars. A letter. *New York*, 1911. The Nation, Vol. 93, pp. 238-239.

Scientific Management and Academic Efficiency. *New York*, 1911. The Nation, Vol. 93, pp. 410-417.

West, T. D. The Efficient Man: for the use of all interested in the Training of Minors and the Development of Supervisors. *Cleveland, O.*, 1914. Gardner Printing Co. ($2·00).

XLI.—BUSINESS PSYCHOLOGY.

Ayres, L. P. Binet-Simon Measuring Scale for Intelligence: some Criticisms and Suggestions. *New York*, 1911. Russell Sage Foundation (5 cents).

Psychological Tests in Vocational Guidance. *In* "Bureau of Education." Bulletin, 1914, No. 14, "Vocational Guidance," pp. 33-37. *Also* Bulletin No. E 138 of the Russell Sage Foundation, *and* Journal of Educational Psychology, Vol. 4, No. 4, April, 1913, pp. 232-237.

A summary of attempts so far made with the author's hopes for the future. Though many of the writer's statements are sound and illuminating, on the whole the tone is too sanguine, both as to what has been found out and what may be expected in the near future. Many subsequent writers have quoted this article with no attempt to verify its conclusions.

XLI.—BUSINESS PSYCHOLOGY.

Barrett. C. R. Getting a Good Job. *Chicago*, 1917. American Technical Society.

A practical solution of the problem of fitting the right man to the right place.

Beatty, Emmeline, S. Department Store Psychology. *Chicago*, 1916. 100%, Vol. 6, pp. 13-20.

By the Head of the Educational and Efficiency Department of Rothschild & Co., Chicago.

Blackford, Katherine M. H. Analyzing Character. *New York*, 1916. Doubleday, Page ($3·00).

Treats of the new science of judging men, and the determination of misfits in business. Based on fifteen years of experience in selecting and placing employees for their actual qualifications.

Blackford, Katherine M. H. *and* Newcomb, A. The Job, the Man, the Boss. *New York*, 1914. Doubleday. Page ($1·75).

Sets forth what is known as the Blackford employment plan, evolved from many years of experience in the work of assisting employers in the selection and assignment of employees. A scientific discussion of the ways of determining personal characteristics and mental and physical fitness of any man for any job.

Eastman, G. R. Psychology for Business Efficiency. 1916.

Shows the intimate connection between psychology and business efficiency and also how one may attain the maximum degree of efficiency in one's own particular line.

Fosbroke, G. E. Character Reading through Analysis of the Features.

Trustworthy rules for analyzing character; the illustrations are of special value.

Goddard. The Binet-Simon Measuring Scale for Intelligence.

Hollingworth, H. L. Vocational Psychology. *Conduct of Mind Series*. *New York*, 1916. Appleton ($2·50 net).

The first book that has attempted to give a complete presentation of the problems, methods and results of this important field. Dr. Hollingworth first discusses the motives and antecedents of vocational psychology. The greater part of the book is concerned with the various systematic efforts that have been made, or are now being made, to study the individual himself and to judge from a determination of his mental characteristics the type of vocational activity which he is best fitted to undertake with success. Psychological tests for different kinds of work are described and accounts given of their actual use and value, their advantages and defects. The technical problems connected with the use of psychological tests in industrial selection and vocational guidance are covered in detail

Hollingworth, H. L. *and* Poffenberger, A. T. Applied Psychology. *New York*. Appleton ($2·25).

This volume will help every individual to understand himself, so that he may accomplish more in the professional, business or social world. It covers such subjects as environment, work and rest, fatigue and sleep, drugs and stimulants, psychology and the executive, psychology in the workshop, in the office, etc.

Merton, H. W. How to Choose the Right Vocation. 1917.

Aims to meet the needs of individual guidance in the choice of vocation by analysis, by mental tests and by citing the different abilities needed in 1400 vocations. Useful mainly to the technical expert in vocational guidance, but its value is discounted by the lack of an index.

Munsterberg, Hugo. Business Psychology. *Chicago*, 1915.

Grundzüge der Psychotechnik. *Leipzig*, 1914.

Psychologie und Wirtschaftsleben; ein Beitrag zur angewandten. Experimental-Psychologie. *Leipzig*, 1912. pp. 192. J. A. Barth.

Psychology: General and Applied. *New York*, 1914. Appleton ($1·85 net).

This textbook in psychology departs from the ordinary work of its kind in three particulars: I. It combines applied psychology with general psychology in one volume; hitherto textbooks have confined themselves to the latter. II. It takes notice of social in addition to individual psychology, and III. to the discussion of casual psychology, made up of explanations and descriptions of mental acts, it adds a section on purposive psychology, concerned with their meaning.

Psychology and Industrial Efficiency. *Boston*, 1913. pp. 320. Houghton, Mifflin ($1·50). *London*, Constable (6/–).

The nature of the psychological problems involved and the indication of the method of approach to their solution are discussed. An important contribution to the practical application of psychology to the problems of everyday life. After an introduction on "Applied psychology," the book is divided into three sections:—

I. The possible man; II. the best possible work; III. the best possible effect. The book will prove helpful to all who are interested in manufacturing and transportation, or in the management of business enterprises.

Scott, W. D. Increasing Human Efficiency in Business: a contribution to the Psychology of Business. *New York*, 1916. Macmillan ($0·50).

A valuable contribution to the psychology of business. The author contends that by the application of psychological principles to business, great improvements can be secured; the effect of the mental attitude of the worker is emphasised; the part which imitation, competition, loyalty, concentration, wages, habit and relaxation play in constituting human efficiency in work are then considered. An interesting volume for every business man.

Seashore, C. E. Psychology in Daily Life. *Conduct of Mind Series*. *New York*, 1914. Appleton ($1·75).

A clear non-technical interpretation of the relation of psychology to everyday affairs. The author here presents actual bits of psychology in intensive illustrations with immediate application to daily life. The several chapters deal with topics such as play, the law of illusion, mental measurement, mental health and mental efficiency.

Stern, W. Psychological Methods for Testing Intelligence. *Baltimore*, 1915. Warwick & York ($1·25).

Strong, T. B., *ed*. Lectures on the Method of Science. *Oxford*, 1906.

Lecture I.—The scientific method as a mental operation.

Swift, E. J. Psychology and the Day's Work: a Study in the Application of Psychology to Daily Life. 1918.

Perhaps the most interesting and illuminating part of the book is that devoted to the investigations of the mental processes of successful men of all sorts and conditions, ranging from military geniuses like Napoleon and men of science such as Kepler, Newton and Faraday, to the managers of one of the most successful chains of restaurants in large cities.

Terman, L. M. Standard Revision and Extension of the Binet-Simon Scale for Measuring Intelligence. 1917.

XLII.—FUNCTIONS OF EMPLOYER.

Chapman, S. J. Functions of the Employer. *In his* "Outlines of Political Economy," Book iii., Chapters ix., x. *London.* Longmans (3/6).

Daniels, G. W. The Evolution of the Employer. *In* Furniss, H. S. "The Industrial Outlook." *London,* 1917. Chatto (3/6).

Functions of the Employer. *In* Furniss, H. S. "The Industrial Outlook." *London,* 1917. Chatto (3/6).

Derrick, P. E. The Evolution of the Manufacturer. *In his* "How to Reduce Selling Costs." *London,* 1916. Newnes (6/–).

Going, C. B. Forms of Industrial Ownership. *In his* "Principles of Industrial Engineering." *New York,* 1911. McGraw-Hill ($2·00).

Kent, W. Duties of the Functional Committees of the Board of Directors. *In his* "Investigating an Industry." *New York,* 1914. Wiley ($1·00). *London,* Chapman & Hall.

Kimball, D. S. Forms of Industrial Ownership. *In his* "Principles of Industrial Organization." *New York,* 1913. McGraw-Hill ($2·50).

Macgregor, D. H. Functions of Employer. *In his* "Evolution of Industry," Chapter I. *London.* Williams & Norgate (1/–).

Marshall, Alfred. Functions of Employer. *In his* "Principles of Economics." *London.* Macmillan (12/6).

Morgan, H. E. Second Factor in Production—The Employer. *In his* "Munitions of Peace: our Preparedness for the Trade War." *London,* 1916. Nisbet (2/6).

Unwin, G. Industrial Organization in the 16th and 17th centuries. Clarendon Press (7/6).

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Webb, Sidney, *and* Beatrice. Functions of Employer. *In their* "History of Trade Unionism." *London,* 1911. Longmans (7/6).

XLIII.—EMPLOYMENT MANAGEMENT.

Alexander, M. W. Cost of Hiring and Firing Men. *New York,* 1915. Engineering Magazine, Vol. 48, pp. 733-736.

An investigation covering the employment and discharge of all classes of factory employees.

Hiring and Firing. *In* Copeland, M. T. "Business Statistics," 1917.

Measuring the Worker's Physical Fitness for his Job. *New York,* 1917. Industrial Management, Vol. 52, pp. 493-503.

A popular discussion of the need for physical and medical examinations and the methods in common use.

American Academy of Political and Social Science. Personnel and Employment Problems in Industrial Management. *Philadelphia,* 1916. Academy of Political and Social Science, Annals, Vol. 65, No. 154, May, 1916.

Contains over thirty important articles by employment managers, factory superintendents, educational leaders, and special investigators. The best collection of articles obtainable on the subject.

Stabilizing Industrial Employment. *Philadelphia,* 1917. The Academy of Political and Social Science Annals, Vol. 71, No. 160, May, 1917.

Contains a number of noteworthy papers on the subject of preventing excessive labour turnover, through the development of better methods of personnel management.

Arnold, H. L. *and* Faurote, F. L. Ford Methods and the Ford Shops. *New York,* 1915. Engineering Magazine Co. ($5·00).

Contains a chapter on the Ford Employment Office, describing the methods in detail.

Babcock, G. D. Employment Management. *In his* "Taylor System in Franklin Management," Chapter vi. *New York,* 1917. Engineering Magazine Co. ($3·00).

Ball, W. S. Where to Find the Best Workmen. *In* "Buying and Hiring. Library of Business Practice," Vol. 3. *Chicago,* 1914. A. W. Shaw Co.

Blackford, K. M. H. Analyzing Character: the New Science of Judging Men, Misfits in business the Home and Social Life. *New York,* 1916. Doubleday, Page ($3·00).

Treats of the new science of judging men, based on fifteen years of experience in selecting and placing employees for their actual qualifications.

Blackford, Katherine M. H. *and* Newcomb, Arthur. The Job, the Man, the Boss. *Garden City, New York,* 1914. pp. 266. Doubleday, Page ($1·75).

The first six chapters contain some excellent comments on the general features of employment management; the need for a spirit of harmony; the ways of bringing about co-operation effort; the reasons for the creation of a separate employment office; the benefits to the organization of a centralized system of employment supervision. The remainder of the book sets forth in detail Dr. Blackford's method of selecting employees.

Bloomfield, M. New Profession of Handling Men. *Philadelphia,* 1915. American Academy of Political and Social Science Annals. Publication No. 928, pp. 6.

A statement of the aims and methods of the employment manager, and of the employment managers' associations, with a discussion of the benefits to be derived from this new effort at guidance within the occupation. The author gives an account of the founding of the Employment Managers' Association, of Boston, and refers to some of the more striking features in methods now in use for selecting employees.

XLIII.—EMPLOYMENT MANAGEMENT.

Brisco, N. A. Hiring of Labor. *In his* "Economics of Efficiency." *New York*, 1914. Macmillan ($1·50).

Building up the Force. *In* "Library of Factory Management," Vol. 4—Labor. *Chicago*, 1915. A. W. Shaw Co.

Burlingame, L. D. Americanizing a Thousand Men. *New York*, 1917. Industrial Management Vol. 53, pp. 385.

Describes in detail the methods by which the Brown and Sharpe Mfg. Co., Providence, R.I., prevailed upon all but 206 of their 1,312 alien employees to take out the citizenship papers for which they were eligible. The article contains many suggestions for a successful campaign of Americanization and education.

California Bureau of Labor Statistics. Sixteenth Biennial Report. 1913-14. State Printing Office, 1914.

Interesting examples of the settlement of labour disputes, data on employment agencies, labour unions, and manufacturers. A description of the lumber and cement industries in the State. This is a sample of the vocational importance such reports are likely to assume.

Carpenter, C. U. Working of a Labor Department in Industrial Establishments. *New York*, 1903. Engineering Magazine, Vol. 25, pp. 1-9.

Clark, L. D. Law of the Employment of Labor. *New York*, 1911. pp. 373. Macmillam. (7/– net).

Clothier, R. C. Selective Function of the Employment Department. *New York*, 1916. Efficiency Society Journal, Vol. 5, pp. 237-248.

Cohen, J. H. Law and Order in Industry. *New York*, 1916. Macmillan ($1·50).

A review of the protocol which closed the strike in 1910 in the cloak and suit industry in New York City. Describes the cloak and suit industry, the strike of 1910, and the administration of the protocol. A very important part of the book is the portion devoted to the work of the Joint Board of Sanitary Control.

The protocol should receive the careful consideration of all who are interested in employment problems.

Commons, J. R. Labor and Administration. *New York*, 1913. Macmillan ($1·50).

Crabb, J. T. Scientific Hiring. *New York*, 1912. Efficiency Society. Transactions, Vol. 1, pp. 313-318.

Crozier, *General* W. Scientific Management in Government Establishments. *Hanover, N.H.*, 1915. Society to Promote the Science of Management. Bulletin, Vol. 1, No. 5, pp. 1-8.

The introduction of the Taylor system in the Watertown Arsenal in Massachusetts aroused a storm of opposition from labour leaders throughout the country. General Crozier analyses the features of the system in use and justifies its retention from grounds of economy as well as fair treatment of the men.

Dean, Stuart. Selecting, Sorting, Treating and Paying Men. *New York*, 1912. Iron Age, Vol. 90, pp. 1262-1264.

Hints of an experienced Works Manager, looking to the development of an able and contented working force.

Selection and Treatment of Men. *In his* "Shop and Foundry Management." *New York*, 1913. D. Williams Co. ($2·50).

Dearle, N. B. Conditions of Engagement and Employment. *In his* "Industrial Training." *London*, 1914. King (10/6).

Dicksee, L. R. Remuneration of Employees. *In his* "Business Organization." *London*, 1910. Longmans (5/–).

Diemer, Hugo. Employment of Labor and Labor Problems. *In his* "Factory Organization and Administration." Chapter x. *New York*, 1914. McGraw-Hill ($3·00).

Emerson, Harrington. The Scientific Selection of Employees. A Pamphlet. *New York*. Emerson Co.

Employment and Labor Maintenance Department. Monthly articles on Employment and personnel Problems. *New York*, 1917. Industrial Management *formerly* Engineering Magazine.

Commencing with the January, 1917, number, this magazine, besides its many other features of interest to vocational guidance, offers this department in which employment managers and others may discuss ways and means for improving conditions of work.

Feiss, R. A. Personal Relationship as a Basis of Scientific Management. *Hanover, N.H.*, 1915. Society to Promote the Science of Management. Bulletin, Vol. 1, No. 6, pp. 5-25; *also in* American Academy of Political and Social Science Annals, May, 1916.

The author represents a company under a new type of management that fully realises the importance of personnel and that has developed several tentative solutions for the problem of caring for the individual workman to the best advantage of every one concerned. The article describes in detail the work of the Employment Department of the Clotheraft Shops at Cleveland, Ohio Particularly noteworthy features are care in selecting employees who are in harmony with the spirit of the organization; supervision of home conditions and health through nurses and physicians; opportunity for transfer and try-out to other departments of the factory · co-operation with the selling branch to keep down lay-offs and dull seasons.

Scientific Management Applied to the Steadying of Employment and its effect in an Industrial Establishment. *Philadelphia*, 1915. American Academy of Political and Social Science Annals. Publication No. 920, Sept.

A brief statement of the methods in use in the Employment Department of the Clotheraft Shops at Cleveland, Ohio. and the fundamental principles involved. Nearly all the material is restated and amplified in the large paper by Mr. Fiess, entitled "Personal relationship as a basis of scientific management."

XLIII.—EMPLOYMENT MANAGEMENT.

Fisher, B. Determining Cost of Turn-over of Labor. *Philadelphia*, 1917. American Academy of Political and Social Science Annals, Vol. 71, Whole No. 160.

A proposed method for computing the cost of changing employees, intended to be made the basis for research. The paper contains a very full outline of the numerous items to be taken into account.

How to Reduce Labor Turn-over : an Address before the Philadelphia Association for the Discussion of Employment Problems, by the Vice-President of the Executives' Club, Detroit, Mich., Jan. 8, 1917.

Reprinted in Academy of Political and Social Science Annals, Vol. 71, Whole No. 160.

A thorough analysis of the reasons for excessive turnover with suggestions for reduction. The author is an experienced employment manager who has formulated a comprehensive plan for attacking the problem of building up a stable working force.

Industrial Loyalty : its Value, its Creation, its Preservation. *London*, 1918. Routledge (2/6).

Fosbroke, G. E. Character Reading through Analysis of Features.

Trustworthy rules for analyzing character ; the illustrations are of special value.

Fullerton, H. S. Getting and Holding a Job. *New York*, 1916. American Magazine, Vol. 83, No. 3, March, 1916.

Gives a statement of some of the tests being used in some Chicago establishments. They are simple psychological tests, but there is so far no proof that they bear a sufficient relation to vocational ability to justify their use. Some other tests described are examples of the kinds of judgments which are unsafe to make in hiring men. Such an article is likely to be misleading.

Gantt, H. L. Industrial Leadership. *New Haven*, 1916. Yale University Press ($1·00). *London*, Milford (4/6 net).

Analysis of the tasks, the elimination of the wasteful and unnecessary operations, the best possible conditions for work, harmonizing the selling end with production in order to steady employment, accompanied by careful selection of workers, and the readjustment of wages are important parts of the plan. Education by the State is to be provided in matters common to all industries.

Hendricks, B. J. Fitting the Man for his Job. *New York*, 1916. Harper's Magazine, Vol. 134, No. 799, pp. 64-70.

A popular statement of the work being accomplished by those firms which have employment managers and attend to the human factor in their establishments.

Gentle Art of Hustling. *New York*, 1905. Scientific American Supplement, Vol. 60, pp. 24790-24791.

Gilbreth, F. B. *and* Mrs. L. M. The Three-position Plan of Promotion. *New York*, 1915. Iron Age, Vol. 96, pp. 1057-1059.

Also in " American Academy of Political and Social Science Annals," Philadelphia, Vol. 65, 1916, pp. 289-296.

Goddard, A. E. Legal Points in Hiring and Discharging Men. *In* " Buying and Hiring ; Library of Business Practice," Vol. 3. *Chicago*, 1914. A. W. Shaw Co.

Going, C. B. Efficiency of Labor. *New York*, 1912. American Review of Reviews, Vol. 46, pp. 329-338.

Points out that one distinctive feature of the modern system of management is the restoration of the individuality of the workman.

Gowin, E. B. Selection and Training of the Business Executive. *New York*, 1918. Macmillan ($1·50).

Presents a programme for the selection and training of business executives, basing its recommendations on an investigation of the methods now in use by many leading corporations. Author is Assistant Professor of Commerce, New York University.

Gruenberg, B. C. What's in a Job ? Scientific Monthly, Sept., 1916. pp. 263-276.

We must demand an organization of work and a distribution of workers that will yield a maximum of satisfaction and pleasure to the workers while at work.

Hartness, James. Factor of Habit. *New York*, 1912. Efficiency Society Transactions, Vol. 1, pp. 237-242.

Human Factor in Works Management. *New York*, 1912. pp. 159. McGraw-Hill ($1·50).

An attempt to set forth some of the most essential principles of industrial economics. Special emphasis is laid on the proper use of the human being, especially as regards modes of employment of mind and body. Particular attention is given to those modes of use that are the most favourable to the comfort and success, not only of the man in the office or works, but to the success of the organization or industry. Emphasis is also given to the value of habit, both as a present means and as one by which progress can most easily be made.

Le facteur humain dans l'organisation du travail. *Paris*, 1915. Revue de Métallurgie, Vol. 12, pp. 729-803.

Helping a Man to find his Plan. An editorial. *New York*, Machinery, Vol. 18, p. 679.

Hendrick, B. J. Fitting the Man to the Job. *New York*, 1916. Harper's Magazine, Dec. 1916, pp. 64-70.

Hopkins, E. M. Supervisor of Personnel and his Functions. *Hanover, N.H.* Society to Promote the Science of Management, Bulletin, Vol. 1, pp. 9-15.

Abstract in " Industrial Engineering and Engineering Digest," New York, Vol. 15, pp. 7-11.

Importance of scientific selection of workmen and their care and welfare.

XLIII.—EMPLOYMENT MANAGEMENT.

How to Handle Workmen. *Chicago*, 1913. pp. 64. A. W. Shaw Co. ($0·50).

Hoxie, R. F. Methods Employed in the Selection and Hiring of Workmen. *In his* "Scientific Management and Labor." *New York*, 1916. Appleton ($1·50).

Jones, E. D. Employment of Labor. *In his* "Administration of Industrial Enterprises." *New York*, 1917. Longmans ($2·00).

Kelly, R. W. Hiring the Worker. *Industrial Management Library*. *New York*, 1918. Engineering Magazine Co. ($3·00).

Contents: The new profession of handling men; the development of employment department; an investigation of employment problems; duties and responsibilities of the employment manager; systems of organization and the cost of maintenance; analyzing the job; the vital problem of selection; initiating workers into their tasks, and the general education of employees; transfer, promotion, and discharge; the training and qualifications of employment managers; specimen blanks; record forms, and instruction booklets; retaining the worker; a summary view of labor turnover.

Selected bibliography of employment management and related topics.

Kent, R. T. Employment Methods that make Good Workers. *New York*, 1916. Iron Age, Vol. 98, pp. 244-247.

The lowest labor turn-over in the industry has resulted from the methods used in a Middle Western plant, that of the Joseph & Feiss Company, Cleveland, Ohio.

Kimble, W. F. Choosing Employees by Mental and Physical Tests. *Industrial Management Library*. *New York*, 1917. Engineering Magazine Co. ($3·00).

Description and discussion of numerous tests, with many references to actual cases.

Labour: Building up a Factory Force; Industrial Policies; Handling and Training Men; Scientific Management; Wage Payment; Co-operation; Safety and Service Work. *Works Management Series*. *Chicago*, 1915. A. W. Shaw Co. ($3·00).

Mitchell, J. Wage Earner and his Problem. *Washington*, 1913. P. S. Ridsdale.

The Labour-Union point of view, well stated. The Counsellor must know and appreciate the aims of the Unions.

Morrell. **Edwin**. Science of Judging Men. *Cleveland, Ohio.*, 1917. Knox School of Salesmanship and Business Efficiency.

A study in character analysis, by a former Professor of Psychology in an Ohio College.

National Association of Corporation Schools. Reports of the Committee on Vocational Guidance, the Organic Development of Business. Fourth Annual Convention, 1916.

A description of the kind of management which takes full account of the human factor in commerce and industry. Part I. deals with the ideals sought for by the employee, in order to realize fair treatment, co-operation, self-development, and self-respect. Part II. describes the necessary machinery to bring about the organization of a central employment and service bureau, job analysis, health help, continued education, promotion and transfers, rectifying of grievances, and management sharing. The report contains examples drawn from plans actually in operation. Part III. contains eleven articles and outlines, descriptive of plans and experiments pertinent to the points brought out in the report.

National Civic Federation Review. Working Conditions in New York Stores. *New York*, 1913. National Civic Federation Review, Vol. 4, No. 1.

Under the auspices of the Welfare Dept. of the National Civic Federation, an investigation was made covering the conditions of employment in 22 different retail dry goods stores and mail-order houses employing a total of 38,900 employees. Four topics are considered in the report. I. Welfare activities and recommendations for improvement; II. The length of the work day; III. The vexed problem of women's wages in department stores; IV. The relation of the wage scale to the social evil

The report is commendably concrete, abounding in practical illustrations of existing conditions, and the few statistics are well interpreted.

Needham, H. B. How Workmen are Fitted to the Job. *In* "Buying and Hiring: Library of Business Practice," Vol. 3. *Chicago*, 1914. A. W. Shaw Co.

Nichols, E. F. Employment Managers Solving a Business Problem. *The Nation's Business*, Vol. iv., No. 2, March, 1916, pp. 14-15, 17.

A good summary of the difficulties in present methods, the hopeful new attempts to develop better policies, and the duties and opportunities of these important officers.

Redfield, W. C. The New Industrial Day. *New York*, 1913. Century Co.

As his central topic the author takes the proposition that the employees of any factory are worthy of more consideration on the part of everyone concerned than the material produced. He believes that in the last analysis whatever makes for the health, happiness and prosperity of the majority of the firm's employees results in economic gain to the firm itself.

In spite of a marked tendency to give support to certain moot political tenets, "The New Educational Day" ought not to be overlooked as a source of valuable arguments, for a better selection of employees, for more careful instruction in the tasks, for a closer personal touch between the management of good factories and the working force.

Rindsfoos, C. S. Personal Characteristics and Qualifications. *In his* "Purchasing." *New York*, 1915. McGraw-Hill ($2·00).

Rogers, S. B. Carding the Right Man for each Job. *Chicago*, 1912. Factory, Vol. 9, pp. 207-208.

Hiring Factory Help. *In* "Buying and Hiring: Library of Business Practice," Vol. 3. *Chicago*, 1914. A. W. Shaw Co.

Rossiter, **Alfred**. Pocket Manual for Character Analysis and Employment Managers: Based on the Blackford System. *New York City*, 1915. The Author ($1·00).

Schneider, H. Selecting Men for Jobs. *New York*, 1916. Engineering Magazine, Vol. 51, pp. 420-431.

Dean Schneider discusses sanely and effectively the inadequacy for purposes of vocational guidance of the theory of boy epochs, reliance on physical characteristics, and psychological tests He argues for trying men on the actual job, as can be done in the co-operative plan. In the latter part of the paper, the author quotes from his article "Selecting young men for particular jobs," arguing for the theory of types of mind.

Selecting Young Men for Particular Jobs. *New York*. American Machinist, April 10, 1913.

An attractively writtem article about types of men for types of work. The author bases his conclusions on seven years' experience with the co-operative work at the University of Cincinnati, and on the results of the observations of about 500 students, who were serving on part-time in manufacture, construction, and transportation. He attempts a classification of marked characteristics which furnish a rational basis for the broad selection of young men for particular jobs.

XLIII.—EMPLOYMENT MANAGEMENT.

Scientific Man-handling. *New York*, 1914. Independent, Vol. 79, p. 72.

Scott, W. D. Increasing Human Efficiency in Business. *New York*, 1911.

Scientific Selection of Salesmen. *Advertising and Selling Magazine*, Vol. 25, Nos. 5, 6 and 7, Oct.-Dec., 1915.

A series of tests made by corporations representing the most important development in sales management in the past dozen years. The tests are of many kinds, and are based on mental cleverness, the theory being, no doubt, that there is a high positive co-relation between cleverness and ability as salesmen.

Shepard, G. H. Personnel. *In his* "Application of Efficiency Principles. *New York*, 1917. Engineering Magazine Co. ($3·00).

Good hiring methods and bad ones; instruction and promotion; getting the right man into the right place; keeping records of employees; employment supervisors and the employment department; how the higher officials may keep in touch with conditions and individuals; encouraging efficiency of employees; keeping the best men; getting the quickest results.

Shinn, E. The Art of Handling Men. *New York*, 1905. World's Work, Vol. 11, pp. 6900-6902.

Stein, Leon. Buying Brains: Facts Regarding the Establishing of Better Business Relations between Employers and Employees. *New York*, 1918. Author's Press.

Stratton, G. F. How to Find Good Men in Your Shop. *Garden City, New York*, 1907. World's Work, Vol. 14, pp. 9489-9490.

System Co. Handling Men: Selecting and Hiring: How to Hold your Men: Breaking in and Developing Men: Putting More than Money in Pay Envelopes. *Chicago*, 1917. A. W. Shaw Co. ($1·00).

Labor. *Factory Management Series*. *Chicago*, 1915. A. W. Shaw Co. ($1·00).

Based on the work of a number of prominent authorities in the employment field. The following are the chapter headings of interest to employment managers and vocational counsellors: Hiring and advancing workers; starting men right; how to pick the best men; piece work; profit sharing.

Tarbell, Ida M. Our New Industrial Leader. *In her* "New Ideals in Business." *New York*, 1917. Macmillan ($1·50).

Thompson, C. B. Relation of Scientific Management to Labor. Quarterly Journal of Economics, Vol. 30, Feb., 1916, pp. 311-351.

An explanation and defence of the Taylor system as it touches wages and labour organisations. The attitude of certain labour leaders is criticized, though it is admitted that "positive management" has "the necessity of retaining the good will of the employees."

U.S. Bureau of Labor Statistics. The British System of Labor Exchanges, by B. Lasker. *Employment and Unemployment Series*, No. 5, Whole No. 206, October, 1916.

An excellent account of the national system of labor exchanges established for the United Kingdom by the Labour Exchanges Act of 1909. The report describes the methods in use, gives the results of an investigation of the various effects of the exchanges on labor conditions, and summarizes the advantages to workers, employers, and to the State.

Labor Laws and Their Administration in the Pacific States. Whole No. 211: *Labor Laws of the United States Series*, No. 9.

A valuable résumé of recent legislation and the administration of labor laws in the Pacific State. These are especially significant chapters on child labor, the safety and health of the worker, and accident compensation.

Proceedings of Employment Managers' Conference, 1916. Whole Nos. 196 and 202. *Employment and Unemployment Series*, Nos. 3 and 4.

These two bulletins contain important papers and addresses on the functions and methods of employment managers, read before the Minneapolis Session, Jan., 1916, and the Boston Session. May, 1916. They duplicate in most particulars the material in *The Annals*, May, 1916.

Webb, Sidney. Appointments and Dismissals. *In his* "Works Manager To-day." *London*, 1917. Longmans (3/6).

Williams, J. M. An Actual Account of what we have done to Reduce our Labor Turn-over. 1917. 14 pp.

Reprinted in the *Annals of the American Academy of Political and Social Science*, May, 1917.

The Secretary for Fayette R. Plumb, of Philadelphia and New York, outlines in this address the methods of the corporation's newly established Employment Department. Sample forms, data as to the results attained after the first few months of operation, and a brief discussion of the cost of changing employees are among the noteworthy features of this valuable paper.

Willits, J. H. Labor Turn-over and the Humanizing of Industry. *Philadelphia*. Annals of the American Academy of Political and Social Science, Sept., 1915. Publication No. 929.

A good statement of the aims and methods of the employment manager movement.

Unemployed in Philadelphia. Department of Public Works. *Philadelphia*, 1915. Also in Supplement to Annals of the American Academy of Political and Social Science, May, 1916.

A scientific study of the fluctuation of employment in some of the city's leading industries, the effects of unemployment on the city and the individual, and the possible remedies. A public employment bureau is suggested. Pages 86-89 discuss the present abuses in hiring men. The book contains diagrams and tables.

Wood, A. E. A Study of the Unemployed. *Reed College Record*, No. 18, Dec., 1914.

This report is based on an intensive study of about 500 unemployed men in Portland, Oregon. It is found that conditions in industry make unemployment inevitable and that on the whole it cannot be said that a man's unemployment is his own fault. Detailed facts and figures are given.

Worman, H. A. How to get Workmen. *Chicago*, 1913. pp. 64. A. W. Shaw Co. ($0·50).

Recruiting the Working Force. *Chicago*, Factory, Dec., 1907, to Jan., 1909, inclusive.

Wright, R. V. How do you Select and Promote your Men? *New York*, 1915. Railway Age Gazette, Vol. 59, pp. 231-233.

XLIV.—EXECUTIVE CONTROL.

Administration and Management. *In* "Technology and Industrial Efficiency." *New York,* 1911. McGraw-Hill ($3·00).

Allen, C. L. General Manager in Specific Industries. *New York,* 1912. Efficiency Society. Transactions, Vol. 1, pp. 247-251.

Allen, C. R. The Instructor, the Man and the Job: a Handbook for Instructors of Industrial and Vocational Subjects. *Philadelphia,* 1919. Lippincott ($1·50).

Contents: Training in the plant; the analysis and classification of trade knowledge; establishing an effective instructional order; putting it over; methods of instruction; lesson planning; instructional management; organization for training in industry; use of this material in instructor training courses. Appendix.

Author was Assistant Superintendent of Training for the United States Shipping Board.

American Academy of Political and Social Science. Personnel and Employment Problems in Industrial Management. *Philadelphia,* 1916.

Andrews, Ian. Commercial Management of Factories. *New York,* 1902. Engineering Magazine, Vol. 25, pp. 539-545.

Considers the relations and functions which the office manager should bear to the cost of production.

Babcock, G. D. Establishing Control. *In his* "Taylor System in Franklin Management," Chapter iv. *New York,* 1917. Engineering Magazine Co. ($3·00).

Executive Problem: an Analysis of what is Involved in Different Forms of Management. *New York,* 1915. Iron Age, Vol. 96, p. 419.

Batey, John. The Value of Knowledge. *In his* "Science of Works Management." *London,* 1914. Scott, Greenwood (4/6).

Becker, O. M. Common-sense of the Management of Men. *New York,* 1906. Engineering Magazine, Vol. 30, pp. 536-554.

Square Deal in Works Management. *New York,* 1906. Engineering Magazine, Vol. 30, pp. 660-687, 823-849; Vol. 31, pp. 38-59.

Bunnell, S. H. Right Principles of Works Management. *New York.* Iron Age, May 4, 1911.

Burroughs, A. M. Handling Employees so as to Minimize Costs. *New York,* 1914. *Metal Worker,* Vol. 82, pp. 790-793, 802.

Analysis of various methods which are employed and discussion of their relative merits.

Calder, John. Human Factors in Engineering Practice. *Hoboken, N.J.,* 1915. Stevens' Indicator, Vol. 32, pp. 193-196.

Casson, H. N. Human Nature. *London.* Efficiency Magazine Co. (10/–).

Gives fourteen axioms of human nature of value to the manager.

Coburn, F. G. Science and Art of Management. *New York,* 1913. Iron Age, Vol. 91, pp. 248-249.

Urges the training in the psychological principles of handling men.

Collins, J. H. Art of Handling Men. *Philadelphia,* 1910. pp. 143. Henry Altemus Co. ($0·50).

Colvin, F. H. Labor Turn-over, Loyalty and Output. *New York,* 1919. pp. 152. McGraw-Hill.

Personality in Shop Management. *New York,* 1911. American Machinist, Vol. 35, pp. 439-440.

Cooper, W. R. Industrial Agreements. *In his* "The Claims of Labour and Capital." *London,* 1919. Constable (2/6 net).

Danvers, R. L. Gospel of Good Fellowship. *Chicago,* 1916. Public Service, Vol. 21, pp. 150-152.

Efficiency secured by H. P. Frasse, purchasing agent, Edison Electric Illuminating Co., Brooklyn.

Day, Charles. Industrial Leadership. *New Haven, Conn.,* 1909. Yale Review, Vol. 18 pp. 21-33.

Deeley, W. J. Labour Difficulties and Suggested Solutions: a Manual for Technical Students, Cashiers, Foremen, Departmental or Works Managers and Employers. *Manchester,* 1918. Sherratt & Hughes (7/6).

Diemer, Hugo. Executive Control in the Factory. *Chicago,* 1917. Factory, Vol. 1, pp. 73, 90-91, 120, 126-128, 237-239, 250-251.

The method of obtaining executive control in certain factories.

Functions of the Works Manager. *In his* "Factory Organization and Administration." *New York,* 1914. McGraw-Hill ($3·00).

Organization and Control. *In his* "Factory Organization and Administration." *New York,* 1914. McGraw-Hill ($3·00).

Principles Underlying Good Management. *In his* "Factory Organization and Administration." *New York,* 1914. McGraw-Hill ($3·00).

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Drury, H. B. Executive Control. *In his* " Scientific Management : History and Criticism." *New York*, 1915.

Emerson, Harrington. The Creation of Organization with Special Reference to Personnel. *Atlanta*, 1913. Southern Machinery, Vol. 29, pp. 159-161.

Personality in Organization. *New York*, 1915. Efficiency Soc. Journal, Vol. 4, pp. 16-19.

Administration *In his* " Twelve Principles of Efficiency." *New York*, 1912.

Employer and Employee. *In* " Business Man's Library," Vol. 8. *Chicago*. A. W. Shaw Co.

Executive Control : Building up the Organization : Selecting and Training Men : Reorganizing under Scientific Management ; Establishing Written Standard Practice ; Management Duties, Decisions and Policies. *Factory Management Series*. *Chicago*, 1915. A. W. Shaw Co. ($3·00).

Farnham, D. T. Executive and the Modern Organization. *New York*, 1916. Engineering Magazine, Vol. 51, pp. 485-493.

Points out a better and more effective way of handling the job.

Executive Statistical Control. *Factory Management Course and Service, Vol.* 11. *New York*, 1917. pp. 452. Industrial Extension Institute.

Scientific versus Intuitive Administration. *New York*, 1916. Engineering Magazine, Vol. 51, pp. 849-854.

Feiss, R. A. Personal Relationship as a Basis of Scientific Management. *Hanover, N.Y.*, 1915. Society to Promote the Science of Management. Journal, Vol. 1, pp. 5-25.

Also in " American Academy of Political and Social Science. Annals," Philadelphia, Vol. 65, pp. 27-56.

Considers the remarkable success of Joseph & Feiss Co. in the handling of their workmen.

Fyfe, T. A. Employers and Workmen : a Handbook explanatory of their Duties and Responsibilities under the Munitions of War Acts, 1915 and 1916. *London*, 1916. pp. 102. W. Hodge (2/6).

Gantt, H. L. How to Create Industrial Leaders. *New York*, 1915. Engineering Magazine, Vol. 50, pp. 428-437.

Abstract in " Iron Age," New York, Vol. 95, pp. 196-197.

Paper read before American Economic Association, Dec. 30, 1914. Mr. Gantt believes that those organizations will succeed best that can select their leaders in the most democratic manner.

Importance of Leadership : Industry after the War. *New York*, 1916. Engineering Magazine, Vol. 51, pp. 17-21.

Reprinted in Copeland, M. T. " Business Statistics," 1917.

Industrial Leadership : an Address delivered in the Page Lecture Series, 1915, before the Senior Class of the Sheffield Scientific School, Yale University. *New Haven*, 1916. pp. 128 *Page Lectures*, 1915. Yale University Press ($1·00). *London*, Milford (4/6).

Application of the principles set forth would go a long way toward solving most labor troubles.

What is Preparedness ? *New York*, 1916. Engineering Magazine, Vol. 51, pp. 804-812.

Need for managerial efficiency.

Gerstenberg, C. W. Organization and Control. *New York*, 1917. pp. 315. *Modern Business, Vol.* 3. Alexander Hamilton Institute.

Gilbreth, F. B. Administration. *In his* " Primer of Scientific Management." *New York*, 1912.

Gilbreth, F. B. *and* Mrs. L. M. Co-operative Spirit and Industrial Peace. *New York*, Iron Age, Vol. 96, pp. 528-530.

Modern management obliterates four causes of strikes.

Holding and Helping Employees to Help Themselves. *Mishawaka, Ind.*, 1916. Dodge Idea, Vol. 32, pp. 784, 797-798.

Godfrey, Hollis. Application of Engineering Methods to the Problems of the Executive, Director and Trustee. *New York*, 1915. American Society of Mechanical Engineers. Journal, Vol. 37, pp. 334-340.

Going, C. B. Philosophies of Management. *In his* " Principles of Industrial Engineering." *New York*, 1911. McGraw-Hill ($2·00).

Principles of Industrial Organization. *In his* " Principles of Industrial Engineering," Chapter iii. *New York*, 1911. McGraw-Hill ($2·00).

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GOWIN, E. B. Executive and His Control of Men. *New York*, 1915. Macmillan ($1·50).

This study of executives has three main divisions, the executive is first considered as an individual; both his physical and mental qualities are analyzed and compared with those of ordinary men. In Part II. the working methods of a leader are discussed. Various means of stimulating and controlling men are passed in review. The remaining portion of the book is devoted to "Limits upon the executive" The reactions of his co-workers either increase or limit his power, and it is the problem of Part III. to show how the successful executive can overcome apathy in his working force and secure their best efforts.

Selection and Training of the Business Executive. *New York*, 1918. pp. 225. Macmillan ($2)

Contents: Executive positions; the asset value of executives; the essential qualities of an executive; nature and nurture; phrenology and physiognomy; methods of selection; the problem of selection standards; experience and training; methods of training; the training program; incentives for the executive; the policy regarding personnel. Index.

HASKELL, A. C. Superintendents can Save Money by Short Time Studies. *New York*, 1915. Engineering Record, Vol. 71, p. 341.

HIGGINS, A. C. Suggestion Importance of Management Studies. *New York*, 1912. Iron Age, Vol. 89, p. 914.

HILLS, A. F. The "Good Fellowship" Scheme at the Thames Ironworks. *London*, 1901. Economic Review, Vol. 11, p. 84.

HOXIE, R. F. Scientific Management and Labor. *New York*, 1916. Appleton ($1·50).

The author acted as a special investigator of scientific managemant for the United States Commission on Industrial Relations, and the book is based upon an investigation of the relation between labor and scientific management. An effort has been made to discover and test the claims of the originators of the scientific movement, Taylor, Emerson, and Gantt, as well as to set forth a clear, concise statement of those opposed to it. While much of the book deals with technical matters, it clears up many points that ought to be thoroughly grasped by those who deal in any way with employment problems, and is so written as to be easily understood by the ordinary layman.

JARVIS, C. D. For the "Common Good" with Man, Money and Materials. *Syracuse*, 1919. pp. 72. Mason Printing Corporation.

JONES, E. D. Functions of a Works Manager. *In his* "Administration of Industrial Enterprises." *New York*, 1917. Longmans ($2·00).

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XLVII.—SELECTION AND TRAINING OF EMPLOYEES.

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Author was Assistant Superintendent of Training for the United States Shipping Board.

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XLVIII.—SHOP COUNCILS, COMMITTEES, MANAGEMENT SHARING.

XLVIII.—SHOP COUNCILS, COMMITTEES, MANAGEMENT SHARING.

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(2) To recommend means for securing that industrial conditions affecting the relations between employers and workmen shall be systematically reviewed by those concerned, with a view to improving conditions in the future

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Ayer, M. A., *ed.* Keep up Your Courage: Keynote to Success. *Boston*, 1908. Lothrop ($1 00).

Banks, R. G. D. The Employee who will Succeed: a Guide to Workers of Every Class. *London*, 1907, pp. 176. Simpkin, Marshall (1/6).

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Cannon, W. B. Bodily Changes in Pain, Hunger, Fear and Rage; Account of Recent Researches into the function of Emotional Excitement. *New York*, 1915. Appleton ($2·00).

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Forbes, B. C. Finance, Business and the Business of Life. *Chicago*, 1915. Forbes & Co. ($1·00).

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"The appearance of Dr. Lee's little book is welcome not only as a concise and authoritative setting forth of the sources and measures of fatigue, but also and particularly as giving the first publicity to the investigations of the United States Public Health Service into war industries. Dr. Lee is consulting physiologist to the service and also Chairman of the Sub-Committee on fatigue in industrial pursuits of the National Research Council. The new manual contains conclusions based on his recent studies for these bodies. These are presented for the lay reader with admirable simplicity and clearness, and recommendations are made with great definiteness

A select bibliography of fifty-four titles from foreign and American sources contains recent literature on various aspects of the problem."

Lemon, C. H. Medical Supervision of Street Railway Employees. *Chicago*, 1917. Journal of American Medical Association, Vol. 68, No. 2, p. 95.

A general discussion of the health and welfare service carried on by the Milwaukee Electric Railway and Light Co. A campaign of education both within and without the Company, for the prevention of accidents and a careful preliminary examination with subsequent health supervision, resulted in a reduction of $100,000 in the cost of injuries and damages, and cut in half the average amount of sickness per man per year.

Leverhulme, W. H. Lever, *1st Baron*. Housing and Social Welfare. *In his* "The Six-hour Day and other Industrial Problems," pp. 141-195. *London*, 1918. Allen & Unwin (12/6 net).

McKillop, M. *and* A. D. Scientific Management and Welfare Work. *In their* "Efficiency Methods." *London*, 1917. Routledge (4/6 net).

Meakin, B. Model Factories and Villages. *London*, 1905. Fisher Unwin (7/6).

Part I. describes under "Buildings," "Meals," "Education," etc., methods of model employers Part II. deals with housing problems and model villages and towns.

Mock, H. E. Industrial Medicine and Surgery: the New Speciality. *Chicago*, 1917. Journal of American Medical Association, Vol. 78, No. 1.

Presents some strong arguments in favour of medical examination and supervision of employees. Dr. Mock reports on several important phases of this work. The industry with which he is connected supported in 1916 an eighteen-room office, with seven doctors, twelve nurses and two dentists; 15,151 employees were examined during 1914 and 1915; 13,764 applicants were examined during the same period; 5,000 accident cases were reported to the doctor's office in 1915; all figures of sufficient size to indicate an experience of wide scope and far-reaching significance.

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Otey, Elizabeth L. Employers' Welfare Work. Bulleton No. 123, U.S. Bureau of Labor. *Washington*, 1913. Government Printing Office.

Proud, E. Dorothea. Welfare Work: Employers' Experiments for Improving Working Conditions in Factories: with a foreword by Rt. Hon. D. Lloyd-George. *London*, 1916. Bell (7/6).

"Welfare work" is defined as consisting of "voluntary efforts on the part of employees to improve, within the existing industrial system, the conditions of employment in their own factories." Factory Welfare Departments and the duties of a Welfare Secretary are described. The treatment of the subject is practical and sympathetic. Especially interesting chapters are those dealing with the industrial environment, wages and hours, and incidental aids to welfare, such as the provision of baths, gymnasia, means of recreation. and the like.

Rayburn, C. C. Welfare Work from the Employee's Standpoint. *Meadville, Pa.*, 1906. Chautauquan, Vol. 43, pp. 332-334.

Richmond, M. E. Social Diagnosis. *New York*, 1917. 485 pp. Russell Sage Foundation.

While the book is written primarily for social workers, it contains many points of significance to vocational counsellors or to those who must supervise employees. The author is Director of the Charity Organization Department of the Russell Sage Foundation, and has had many years of experience in various fields of welfare and settlement work.

The volume contains a large number of well selected case studies and experiences that lend a human interest and give a practical bearing to the topics discussed.

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Russell, Thomas. Welfare Work in the Old World to make Employees Efficient. *New York*, 1916. Efficiency Society Journal, Vol. 5, pp. 199-207.

Sanitation: a Method of Improving Production. *New York*, 1914. Industrial Engineering and Engineering Digest, Vol. 14, pp. 1-7.

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Smith, Beatrice McCandlish. The Three Schools of Welfare Work in Factories. *London*. World's Work, 1916, Dec., pp. 64-67.

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Describes the results of 30,000 mouth examinations, 98 per cent. showing need of dental attention. Shows the importance of preventing loss of efficiency through toothache, infection from diseased teeth, and the digestive disorders produced by decayed and abscessed teeth.

This paper is followed by an abstract of the discussion on several papers dealing with the subject of Industrial Medicine read before the American Medical Association at Detroit, June, 1916.

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Talbot, Winthrop. Human Element in Industry: Economics of proper attention to Shop Hygiene through a Service Department; Approved Methods of Ventilation; Importance of the Shop Physician. *New York*, 1913. Iron Age, Vol. 91, pp. 366-369, 418-420.

Abstract printed in the "Engineering Magazine," Vol. 45, pp. 94-97.

A medical viewpoint on human conservation in the factory.

Tarbell, I. M. New Ideals in Business: an Account of their Practice and their Effects upon Men and Profits. *New York*. 1916. pp. 339. Macmillan ($1·75).

A volume on welfare work, dealing with many topics of vital importance to the employment manager; safety and health movements; campaigns against the use of intoxicants; housing; hours of labour; wages; steadying of employment; education, etc.

Tolman, W. H. Social Engineering. *New York*, 1909. McGraw-Hill ($2·00).

An exhaustive account of the various efforts to improve social conditions among employees. A valuable book for all workers. Treats of efficiency in promotion, safety, hygiene, education, recreation, and other topics of vital interest to employees.

Tolman, W. H. *and* Guthrie, Adelaide W. Hygiene for the Worker. *Crampton's Hygienic Series*. *New York*, 1912. American Book Co. ($0·60).

By experts of international reputation in industrial hygiene. Designed for boys and girls from 13 to 18 years of age, for special classes preparing to pass examinations for labour certificates, and for vocational, industrial and manual training high schools.

Walton, Cecil. Welfare Study: What it is. *London*, 1917. Maclure, Macdonald (6d.).

Contians thoughts and suggestions in the humanization of industrial conditions and the creation of the right "atmosphere" in the relation between employers and employees. Author is manager of a large British projectile factory.

Watkins, G. P. Welfare as an Economic Quantity. *Hart, Schaffner, and Marx Prize Essays, Vol.* 17, *Boston*, 1915. Houghton, Mifflin ($1·50).

The first attempt to bring into systematic form existing material on the relation between economic goods and the satisfaction of wants

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The outcome of lectures given to welfare supervisors by Dr. Beatrice Webb, at Birmingham University and elsewhere, and its object is to help them to keep the girls and women under their care in good health

LIX.—OCCUPATIONAL DISEASES AND ACCIDENTS.

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Winslow, C. E. A. Factory Sanitation and Efficiency. *New York*, 1911. Industrial Engineering and Engineering Digest, Vol. 9, pp. 459-461.

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Imbert, A. Les Accidents de travail et les Compagnies d'Assurances. Revue Scientifique, June 4, 1904.

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Contents: Factors contributing to industrial diseases and accidents; diseases due to gases, vapours, high temperatures, etc.; diseases due to working in caissons and compressed air; diseases due to diminished atmospheric pressure; chemical trades; explosives and the effects upon health by the gases evolved; diseases due to metallic poisons, dust, fumes, etc.; diseases due to organic dust, heated atmosphere, etc.; mining; diseases due to parasites and micro-organisms; dangers attendant upon the generation and uses of electricity and electric welding; diseases the consequences of fatigue; occupation neuroses; diseases in miscellaneous trades and occupations; soldiers, sailors and fishermen; rescue work in mines.

Occupations from the Social, Hygienic and Medical Points of View. *Cambridge Public Health Series*. 1916. Cambridge Univ. Press (6/–).

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LX.—SAFETY METHODS.

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The record of an important conference dealing with the functions of the industrial physician and the benefits derived by large concerns from his services. Among the topics treated are the following: asphyxiation and suffocation; Pennsylvania laws relating to industrial hygiene; the physically defective in industry; lead poisoning; the workmen's compensation law as it affects the physician; relation of extreme temperatures to the efficiency of the workman; mortality from diseases of the lungs; physical examinations applied to the prevention of accidents; reasonable surgical, hospital and medical services under the compensation act; inguinal hernia viewed as an anatomical defect.

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VILLARD, O. G. Industrial Accidents. *New York*, 1909. Nation, Vol. 88, pp. 270-271.

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BRADSHAW, GEORGE. Safety First. *New York*. McGraw-Hill Co. ($0·50).

Pocket manual for railroad employees, containing 100 views of the little improper conditions and methods that cause accidents. Comments in everyday language accompany each picture.

CLARK, W. I. Medical Department of a Manufacturing Plant. *New York*, 1912. Engineering Magazine, Vol. 42, pp. 971-973.

Medical Supervision of Factory Employees: Result of Five Years' Experience. *Chicago*, 1917. Journal of the American Medical Association, Vol. 68, p. 5.

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COWEE, G. A. Practical Safety Methods and Devices. *New York*, 1916. Van Nostrand ($3·00). *London*, Routledge (12/6 net).

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The recommendations cover a wide range of subjects: sanitation; health and accident supervision, physical and medical examinations, lunch rooms, recreation facilities, factory nurses. Especially helpful are the sections on physical examination and sanitary arrangements.

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Tells how good order increased the safety and efficiency of foundries.

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Treats of factory accidents and safety; sanitation; employers' welfare work; ventilation; occupational diseases; gives an account of the rise and growth of the factory system; describes the conditions under which factory employees work with suggested means for rendering them safer and more hygienic. Contains chapters of factory legislation and inspection.

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A book on scientific management with some discussion of economic principles. The movement is here represented as contributing to the welfare of society and the worker.

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LXIII.—SCIENTIFIC MANAGEMENT AND THE STATE.

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LXIII.—SCIENTIFIC MANAGEMENT AND THE STATE.

Against the Tavenner Bill. Sentiment Grows, Postmaster-General Aiding.—To be made a rider. *New York*, 1916. Iron Age, Vol. 97, p. 1206.

Against the Taylor System. *New York*, 1916. Iron Age, Vol. 97, pp. 214.

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